

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Norfolk Division**

APPLIED MATERIAL, INC.,

Plaintiff,

v.

CIVIL ACTION NO. 2:05cv476

**TOKYO SEIMITSU, CO., LTD., and
ACCRETECH USA, INC.,**

Defendants.

MEMORANDUM OPINION AND ORDER

This matter comes before the Court on Plaintiff's Motion for Partial Summary Judgment and Defendants' Cross-Motion for Partial Summary Judgment. The Court conducted a hearing on July 17, 2006.¹ For the reasons outlined below, Plaintiff's Motion for Partial Summary Judgment is **GRANTED**. Defendants' Cross-Motion for Partial Summary Judgment is **DENIED**.

I. FACTUAL AND PROCEDURAL HISTORY

A. Technology Background

This case involves technology for chemical mechanical polishing of silicon wafers used in the manufacture of semiconductor integrated chips. Semiconductor integrated chips are manufactured by depositing multiple layers of conductive material onto a silicon wafer. The silicon wafers are typically circular and will have up to several hundred layers of semiconductor integrated chips on each wafer. The process by which the layers are deposited onto the wafer

¹The Court also conducted a *Markman* hearing on July 17, 2006. The opinion concerning interpretation of claims was issued on August 11, 2006.

leaves an irregular surface on the top, causing a need for the wafer to be polished or “planarized” to smooth out the surface for the next layer. Chemical mechanical planarization (“CMP”) is a technology which achieves this necessary polishing.

In a typical CMP machine, wafers are held upside down by a polishing head and rotated against a polishing pad that is placed on the platen rotating in the opposite direction. The polishing pad is treated with a chemical “slurry” which results in the removal of material from the wafer to produce a smooth surface, onto which the next layer of the wafer can be deposited. It is important to determine the proper point at which the desired planarity and thickness of the layer has been reached, referred to as optical endpoint detection (“OEPD”).

The ‘454 Patent²

United States Patent 6,876,454 (“‘454 Patent”), entitled “Apparatus and Method for In-Situ Endpoint Detection for Chemical Mechanical Polishing” was issued on April 5, 2005. The ‘454 Patent describes an apparatus and method for *in situ* endpoint detection in the CMP processes, in which a light beam from a stationary light source located below the platen is directed through a hole or window in the platen and polishing pad to the surface of the wafer. The light that is reflected back from the wafer is then observed and analyzed by a stationary detector to determine the appropriate endpoint. Claim 9 details the method of CMP processing. Claim 22 describes the apparatus. Claims 23, 24, and 27 further describe the rotatable platen, the

²In the complaint, Plaintiff alleged patent infringement of two additional patents. United States Patent 6,676,717 (“‘717 Patent”), entitled “Apparatus and Method for In-Situ Endpoint Detection for Chemical Mechanical Polishing Operations” was issued on January 13, 2004. The ‘717 Patent is not the subject of these dispositive motions and will not be discussed. United States Patent 6,860,791 (“‘791 Patent”) entitled “Polishing Pad for In-Situ Endpoint Detection” was issued on March 1, 2005. Both parties have agreed that the ‘791 patent is no longer at issue.

window, and position sensor for detecting when the wafer is over the window.

B. Claim Violations

Plaintiff alleges that Defendants attempted to sell a CMP tool to Micron Technology, Inc. in 2004. Micron Technology, Inc. (“Micron”) is a semiconductor manufacturer that operates a chip fabrication facility in Manassas, Virginia. In August 2004, Micron issued a Purchase Order for an Accretech CMP Evaluation Device. Micron and Accretech entered into an “Evaluation Agreement” which called for a nine month evaluation period and detailed evaluation test requirements. If there was a successful completion of the evaluation, Micron agreed to purchase a CMP tool from Defendants for the price of \$3.5 million. In September 2004, Defendants sent Micron a CMP tool to be installed and evaluated in Micron’s Manassas facility. Starting in October 2004, Defendants and Micron used the CMP tool to polish wafers. During the evaluation, the Accretech CMP tool was vibrating excessively and scratching the wafers it was supposed to polish. On or about June 24, 2005, Micron terminated the evaluation and cancelled its Purchase Order. Defendants’ CMP tool was removed from Micron’s facility in June 2005.

C. Procedural History

On August 11, 2005, Plaintiff filed the instant Complaint alleging patent infringement. On November 1, 2005, Defendants filed an Answer to Complaint and Counterclaim against Applied Materials. On November 9, 2005, Defendants sought leave of the Court to amend the Answer and Counterclaim for typographical errors. On November 10, 2005, the Court granted Defendants’ Motion to Amend and Defendants’ Amended Answer and Counterclaim were filed. On November 23, 2005, Plaintiff filed a Response to Defendants’ Counterclaim.

On March 17, 2006, the Court granted Defendants’ Motion for Leave to File a Second

Amended Answer and Counterclaim. On March 31, 2006, Plaintiff filed an Answer to the Second Amended Counterclaim.

On May 12, 2006, Plaintiff filed a “Motion for Partial Summary Judgment on Infringement of Certain Claims of the ‘454 Patent.” On June 13, 2006, Defendants responded and filed a Cross Motion for Partial Summary Judgment. Additionally Defendants filed a Motion for Claim Construction requesting a *Markman* hearing.

On July 17, 2006, the Court held a *Markman* hearing and heard arguments from both parties on the motions for summary judgment. On August 11, 2006, the Court issued a Memorandum Opinion and Order defining certain claims of the ‘454 Patent. The Court found that the term “light” as defined in the ‘454 Patent is the spectrum of electromagnetic radiation which can be seen by the human eye and is not limited to lasers. The Court also found that the proper construction of “window disposed adjacent to the hole” in the ‘454 Patent encompasses windows that are both in and near the hole. Finally, the Court found that the term “detector” in the ‘454 Patent refers to a device for detecting the presence of electromagnetic waves and is not confined to the detection component of a laser interferometer.

II. LEGAL STANDARDS

A. Summary Judgment

Rule 56(c) provides for summary judgment if the Court, viewing the record as a whole, determines “that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.” Fed. R. Civ. P. 56(c)); *Haulbrook v. Michelin North Amer., Inc.*, 252 F.3d 696, 700 (4th Cir. 2001) (citing *McKinney v. Bd of Trustees of Mayland Cmty. Coll.*, 955 F.3d 924, 928 (4th Cir. 1992) (stating that “summary judgment should be

granted only when it is perfectly clear that no issue of material fact exists, and it is not necessary to inquire further into the facts in order to clarify the operation of the law”). In deciding a motion for summary judgment, the Court must view the facts, and inferences to be drawn from the facts, in the light most favorable to the nonmoving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986); *Matsushita Elec. Indus. Co. v. Zenith Radio*, 475 U.S. 574, 587 (1986). To defeat summary judgment, the nonmoving party must go beyond the pleadings with affidavits, depositions, interrogatories, or other evidence to show that there is in fact a genuine issue for trial. *Celotex Corp. v. Catrett*, 477 U.S. 317, 324 (1986). Summary judgment will be granted “against a party who fails to make a showing sufficient to establish the existence of an element essential to that party’s case, and on which that party will bear the burden of proof at trial.” *Id.* at 322.

B. Infringement

In an infringement case, summary judgment will be granted “when there is no genuine issue of material fact as to whether correctly interpreted claims read upon the accused device or method, literally or under the doctrine of equivalents.” *Lifescan, Inc. v. Home Diagnostics, Inc.*, 76 F.3d 358, 359 (Fed. Cir. 1996). The patent owner must prove infringement by establishing that the accused product meet every limitation of an asserted claim. “Any deviation from the claim preclud[es] a finding of infringement” *Lantech, Inc. V. Keip Mach. Co.*, 32 F.3d 542, 547 (Fed. Cir. 1994). Additionally, the patent owner must show that the accused product was made, used, offered for sale, sold or imported into the United States during the term of the patent. 35 U.S.C. § 271(a).

III. DISCUSSION

A. Plaintiff's Motion for Partial Summary Judgment

Plaintiff seeks summary judgment on Claims 9, 12, 13, 14, 15, 22, 23, 24, and 27 of the '454 Patent arguing that early determination of these claims has the potential to simplify the case. Specifically, Plaintiff argues that Defendants' CMP tool meets every limitation of the nine asserted claims of the '454 Patent. Additionally, Plaintiff argues that Defendants has offered for sale and used the CMP tool to directly infringe on the '454 Patent under 35 U.S.C. §271(a).

To determine whether an accused device infringes a patent claim, the Court must apply a two step analysis. First, the court construes the claims to determine their scope as a matter of law. Second, properly construed claims are compared to the accused device. *See Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1324 (Fed.Cir. 2002); *Johnson Worldwide Assocs. v. Zebco Corp.*, 175 F.3d 985, 988 (Fed.Cir. 1999).

1. Infringement

As to the first step, the Court construed the disputed claims of the '454 Patent in a Memorandum Opinion and Order issued on August 11, 2006 discussed supra. The second step of the infringement analysis requires a comparison of Plaintiff's CMP device to Defendants' CMP tool.³ Literal infringement requires that the accused device contain each limitation of the claim exactly. "Any deviation from the claim precludes a finding of literal infringement." *Litton*

³The Court is using the '454 Patent as the description of Plaintiff's CMP device. Defendants have not provided a detailed description of their device but the Court has been able to obtain the necessary information from the deposition transcripts of Akihiko Yamane, Hideo Sadaka, and Takashi Fujita, and documents produced by Defendants in response to production requests. These documents were submitted to the Court as exhibits with Plaintiff's Memorandum in Support of Motion for Partial Summary Judgment.

Sys., Inc., v. Honeywell Inc., 140 F.3d 1449, 1454 (Fed.Cir.1998).

a. Claim 9 of the '454 Patent

Claim 9 is directed to a method of CMP processing. Claim 9 states:

A method for chemical mechanical polishing (CMP) of a wafer, the method comprising the steps of:

- (a) holding the wafer in a polishing head against a polishing pad;
- (b) moving the polishing pad to polish the wafer;
- (c) determining an endpoint whereat polishing is terminated, the determining step comprising the steps of,
 - (c1) generating a stationary light beam directed towards the wafer from a side of the wafer contacting the polishing pad;
 - (c2) intermittently passing the light beam through a window that moves with the polishing pad, the window intermittently providing a pathway for the light beam to impinge on the wafer during at least a part of a period of time when the wafer overlies the window, and,
 - (c3) detecting light of the light beam reflected from the wafer through the window to a stationary detector.

It is undisputed that the Defendants' CMP tool is a tool used to perform the steps of a method for chemical mechanical polishing of a wafer. The limitation of part (a) of Claim 9 requires that the wafer is held in a polishing head against the polishing pad. Defendants' CMP tool holds a wafer in an air-floating polishing head against a polishing pad. Defendants' CMP tool matches the limitations in part (a) of Claim 9.

The limitation of part (b) of Claim 9 requires the device to move the polishing pad to polish the wafer. Defendants' CMP tool attaches the polishing pad to the rotatable platen that moves relative to the wafer being polished. Defendants' CMP tool matches the limitations in part (b) of Claim 9.

The limitation of part (c) of Claim 9 requires an endpoint detection system to determine where polishing should be terminated. Defendants' CMP tool has an optical endpoint detection system that uses white light to determine an appropriate endpoint. Defendants' CMP tool

matches the limitations in part (c) of Claim 9.

Part (c1) of Claim 9 requires that the endpoint determination system have a stationary light beam directed towards the wafer from the side of the wafer contacting the polishing pad. Defendants' CMP tool includes a white light source that is stationary and does not move with the rotating platen. This white light source is directed toward the side of the wafer facing the polishing pad. Based on the Court's claim construction of light, as the spectrum of electromagnetic radiation which can be seen by the human eye and is not limited to lasers, Defendants' use of white light satisfies the claims requirement for "light." Accordingly, Defendants' CMP tool matches the limitations in part (c1) of Claim 9.

Part (c2) of Claim 9 requires that the endpoint detection system allow the light beam to pass intermittently through a window, that moves with the polishing pad, to impinge on the wafer when the wafer overlies the window. Defendants' CMP tool includes the stationary white light sources that hits the wafer only when the wafer is in line with the acrylic piece of the polishing pad. Therefore, Defendants' CMP tool matches the limitations in part (c2) of Claim 9.

Part (c3) of Claim 9 requires the endpoint detection system to use a stationary detector to detect the light reflected from the wafer through the window. Defendants' CMP tool includes a stationary lens unit that receives the light reflected off the wafer and sends it through optical cable to a spectrometer. The Court construed the term "detector" as a device for detecting the presence of electromagnetic waves. Defendants are using the spectrometer to detect the light reflected off the wafer. Therefore the spectrometer would qualify as a "detector" under the Court's construction of the term. Defendants' CMP tool matches the limitations in part (c3) of Claim 9. Defendants' CMP tool contains each limitation of Claim 9. Accordingly, the Court holds that Defendants' CMP tool literally infringes Claim 9 of the '454 Patent.

b. Dependent Claims of Claim 9

Claims 12, 13, 14, 15 are dependent claims of Claim 9. Claim 12 of the '454 Patent incorporates the method of Claim 9 and adds that "further comprising holding the polishing pad with a polishing pad support." Defendants' CMP tool attaches the polishing pad with adhesive to the top of the platen. The Court holds that Defendants' CMP tool literally infringes Claim 12 of the '454 Patent.

Claim 13 of the '454 Patent states "[t]he method of claim 12, wherein the polishing pad support comprises a rotatable platen." Defendants' CMP tool performs the methods in Claim 12 and includes a polishing pad that is attached to the movable platen that moves relative to the wafer being polished. The Court holds that Defendants' CMP tool literally infringes Claim 13 of the '454 Patent.

Claim 14 of the '454 Patent states "[t]he method of claim 13, wherein the window comprises a light-transmitting insert mounted in a hole through the platen." Defendants' CMP tool performs the method of Claim 13 and the platen and the pad contain a hole. A window comprising an acrylic piece, which is semi-transparent, is mounted into the hole of the platen. Additionally, a urethane piece may be attached to the platen's disk and the acrylic window. Defendants' CMP tool consists of a window mounted in the hold of the platen. The Court holds that Defendants' CMP tool literally infringes Claim 14 of the '454 Patent.

Claim 15 of the '454 Patent states "[t]he method of claim 12, wherein passing the light beam through the window comprises passing the light beam through a whole in the polishing pad support." Defendants' CMP tool emits a white light from the end of an optical cable and through the lens. The white light beam then passes through an acrylic window in the platen and the urethane piece attached to the platen to impinge the wafer. The Court holds that Defendants'

CMP tool literally infringes Claim 15 of the '454 Patent.

c. Claim 22 of the '454 Patent

Claim 22 defines the device used for CMP processing as envisioned by the patentee:

An apparatus for chemical mechanical polishing (CMP) of a wafer, comprising:

- (a) a polishing pad support to hold a polishing pad and cause the polishing pad to move relative to the wafer;
- (b) a polishing head for holding the wafer against the polishing pad; and
- (c) an optical monitoring system, comprising,
 - (c1) a stationary light source to direct a light beam toward the wafer from a side of the wafer contacting the polishing pad,
 - (c2) a window that moves with the polishing pad, the window intermittently providing a pathway for the light beam to impinge on the wafer during at least a part of a period of time when the wafer overlies the window,
 - (c3) a stationary detector to receive reflections of the light beam from the wafer through the window.

Defendants' CMP tool is a device for the chemical mechanical polishing of a wafer. The limitation of part (a) of Claim 22 requires that the polishing pad support to hold the polishing pad and rotates with the wafer. Defendants' CMP tool attaches a polishing pad to the movable platen and moves relative to the wafer being polished. Defendants' CMP tool matches the limitations in part (a) of Claim 22.

The limitation of part (b) of Claim 22 requires that the wafer is held in a polishing head against the polishing pad. Defendants' CMP tool holds a wafer in an air-floating polishing head against a polishing pad. Defendants' CMP tool matches the limitations in part (b) of Claim 22.

The limitation of part (c) of Claim 22 requires an optical monitoring system. Defendants' CMP tool has a white light optical endpoint detection system. Defendants' CMP tool matches the limitations in part (c) of Claim 22. Additionally parts (c1), (c2), and (c3) of Claim 22 contain the same limitation as parts (c1), (c2), and (c3) of Claim 9. The Court has already held that

Defendants' CMP tool matches the limitations in parts (c1), (c2), and (c3) of Claim 9. Therefore, Defendants' CMP tools matches the limitations in parts (c1), (c2), and (c3) of Claim 22.

Defendants' CMP tool contains each limitation of Claim 22. Accordingly, the Court holds that Defendants' CMP tool literally infringes Claim 22 of the '454 Patent.

d. Dependent Claims of Claim 22

Claims 23, 24 and 27 are dependent claims of Claim 22. Claim 23 incorporates the apparatus of Claim 22 and adds that "the poling pad support comprises a rotatable platen." Claim 24 incorporates the method of Claim 23 and adds that "the window comprises a light transmitting insert mounted in a hole through the platen." Claim 23 and 24 contain the same limitations as stated in dependent Claims 13 and 14. The Court has already held that Defendants' CMP tool infringes on Claims 13 and 14. Accordingly, Defendants' CMP tool matches the limitations found in Claim 23 and 24 and the Court holds that Defendants' CMP tool literally infringes Claim 23 and 24 of the '454 Patent.

Claim 27 incorporates the apparatus of Claim 22 and requires that the optical monitoring system "further comprises: a position sensor for sensing when the window is adjacent [to] the wafer such that the light beam generated by the light source can pass unblocked through the window and impinge on the wafer." Defendants' CMP tool includes a mechanism that can analyze data about rotation speed to determine when the light will be reflected from the wafer. Essentially, Defendants' CMP tool includes a position sensor that senses when the wafer is over the window such that the wafer would reflect the light source. Accordingly, the Court holds that Defendants' CMP tool literally infringes Claim 27 of the '454 Patent.

2. Use and Offer for Sale under 35 U.S.C. § 271(a)

Section 271(a) provides “whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.” Plaintiff argues that Defendants infringed the ‘454 Patent by using its CMP tool while the tool was present in Micron’s facility.

a. Use

One who, without authority, uses a patented invention in the United States during the term of the patent infringes the patent. 35 U.S.C. § 271(a). “Use” is to be construed broadly. “Because Congress has never defined use, its meaning has become a matter of judicial interpretation. Although few cases discuss the question of whether a particular use constitutes an infringing use of a patented invention, they nevertheless convincingly lead to the conclusion that the word “use” in § 271(a) has never been taken to its utmost possible scope.” *Roche Products, Inc. v. Bolar Pharmaceutical Co., Inc.*, 733 F.2d 858, 861 (Fed. Cir. 1984). The Federal Circuit has found testing and product demonstrations to constitute use for infringement purposes. *See Waymark Corp. v. Porta Systems Corp.*, 245 F.3d 1364, 1366-67 (Fed. Cir. 2001) (testing is a use that may be infringing); *Mendenhall v. Cedar Rapids, Inc.*, 5 F.3d 1557, 1559 (Fed. Cir. 1993) (use of patented invention for open house product demonstrations constitutes infringement).

It is not disputed that Defendants sent the CMP tool to the Micron facility. The CMP tool was used to polish wafers so that Micron could evaluate the device. Defendants allege that, while being tested at the Micron facility, the CMP device was malfunctioning and scratching wafers. Because of these problems, Micron switched to testing inexpensive blanket wafers

which did not use the OEPD system as Micron simply set a polishing time and then polished for that time. Defendants state that this switch to testing blanket wafers occurred prior to issuance of the '454 Patent in April 2005. The CMP tool was removed from the Micron facility in June 2005.

Defendants argue that not all uses of a device will infringe on the patented invention. Defendants state that Plaintiff has provided no evidence that Defendants ever used the OEPD system after April 2005. Because the CMP tool was malfunctioning and only blanket wafers were being used, the OEPD system was not used after April 2005. However, Defendants concede that they were using the other parts of the CMP device after April 2005. Essentially, Defendants are arguing that mere use of the CMP tool in the Micron facility is not synonymous with use of the OEPD system and the general use of the CMP tool on blanket wafers does not constitute infringement..

Defendants are incorrect in asserting that only use of the OEPD system constitutes infringement under the '454 Patent. The Federal Circuit has held that a device may be "used" so long as "the claimed combination has been assembled and is used or is available for use." *Lemelson v. United States*, 752 F.2d 1538, 1548 (Fed. Cir. 1985). *See also Hughes Aircraft Corp. v. United States*, 29 Fed. Cl. 197 (Ct. Cl. 1993) (launch of a spacecraft that contained patented invention constituted use of the patent). Therefore, it does not matter whether the OEPD system was used after April 2005. As long as the entire CMP device was in the Micron facility and "available for use," the device was "used" for purposes of patent laws. Accordingly, the Court holds that Defendants have infringed the '454 Patent by using the CMP tool at the Micron facility.

b. Offer to Sell

“Offers to sell” is interpreted according to its ordinary meaning in contract law. *Rotec Industries, Inc. v. Mitsubishi Corp.*, 215 F.3d 1246, 1254-55 (Fed. Cir. 2000). “[A]n offer for sale, whether made before or after the patent is applied for, or after it is granted, requires no more than a commercial offer for sale.” *Id.* at 1254. The Federal Circuit has found offers to sell whenever the description of the merchandise and price are communicated to a potential customer. *3D Systems, Inc. v. Aarotech Laboratories, Inc.*, 160 F.3d 1373, 1379 (Fed. Cir. 1998) (price quotation letters sent by competitor to California residents were “offers to sell” its allegedly infringing equipment).

It is undisputed that Defendants sent Micron a price quotation containing a detailed description of the CMP tool, which was formalized in the Purchase Order and Evaluation Agreement between Micron and Defendants. At any time prior to June 2005, when the evaluation ended, Micron could have exercised its option and purchased the tool.

Defendants argue that preliminary negotiations do not constitute an “offer to sell” and therefore do not infringe the patent. The Purchase Order signed by Micron and Accretech stated that upon successful completion of the evaluation, the parties would enter into negotiations regarding the actual purchase of Defendants’ CMP tool. Accordingly, no offer to sell the CMP tool remained. After the evaluation failed, and Micron notified Accretech, this notification terminated any pending offer to sell.

Defendants are incorrect in classifying the Purchase Order and Evaluation Agreement as mere preliminary negotiations. These documents contained the detailed specifications and purchase price of the equipment. Additionally, the device and orders were customized to meet

the needs of Micron. At any time, Micron could have accepted the agreement and purchased the CMP device for the agreed upon price. The Court finds that Defendants made an “offer to sell” the CMP device to Micron and have infringed the ‘454 Patent.

3. Inducement and Contributory Infringement Under 35 U.S.C. § 271(b) and (c)

Plaintiff argues that Defendants are liable under 35 U.S.C. § 271 (b) and (c) for inducing and contributing to infringement by Micron.

a. Inducement

Section 271(b) provides that “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” To satisfy Section 271(b), Plaintiff must prove that Defendants engaged in direct infringement and intended to induce Micron to infringe the ‘454 Patent as well. *Insituform Techs., Inc. v. Cat Contracting, Inc.*, 385 F.3d 1360, 1377 (Fed. Cir. 2004).

There can be no inducement of infringement without direct infringement by some party. *Met-Coil Systems Corp. v. Korners Unlimited, Inc.*, 803 F.2d 684, 687 (Fed. Cir. 1986). It is not disputed that Micron used Defendants’ CMP tool to polish wafers. Accordingly, Micron directly infringed the ‘454 Patent for the same reasons as stated in the above analysis. The requirement of direct infringement has been met.

Additionally, inducement requires intent on the part of Defendants. “[T]here is a lack of clarity concerning whether the required intent must be merely to induce the specific acts or additionally to cause an infringement.” *Insituform Techs.*, 385 F.3d at 1378. However, the court in *Insituform Techs* found that there was no need to resolve the ambiguities because there was enough evidence to support inducement under either standard. *Id.*

Like *Insituform*, there is sufficient evidence in this case to support the theory that

Defendants intended to induce the acts of Micron and the theory that Defendants intended to actually cause Micron to infringe the '454 Patent. "Intent is a factual determination particularly within the province of the trier of fact and may be inferred from all of the circumstances." *Id.* Under the requirement that the required intent must be to induce the specific act, it is undisputed that Defendants provided Micron with the infringing CMP tool and assistance with using the tool. *See Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1469 (Fed.Cir.1990) ("[P]roof of actual intent to cause the acts which constitute the infringement is a necessary prerequisite to finding active inducement."). Under the more demanding standard that Defendants actually intended to cause infringement, there is evidence that Defendants were aware of the '454 Patent as soon as it issued. Defendants knew or should have known that the actions taken at the Micron facility after April 2005 would constitute infringement. *See Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 553 (Fed.Cir.1990) ("The plaintiff has the burden of showing that the alleged infringer's actions induced infringing acts and that he knew or should have known his actions would induce actual infringements."). Accordingly, the Court holds that Defendants are liable for inducement under 35 U.S.C. § 271(b).

b. Contributory Infringement

Contributory infringement liability arises when a party sells a component of a patented machine knowing it will be used or adapted for use in infringement of a patent. Section 271(c) provides that "[w]hoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an

infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.” 35 U.S.C. § 271(c).

Plaintiff alleges that Defendants are also liable for contributory infringement because they offered to sell their CMP tool, an apparatus, to Micron for use in infringing the process outlined in Claim 9 of the ‘454 Patent. As analyzed above, Defendants offered to sell their CMP tool to Micron for use in polishing wafers. The offer was still outstanding as of April 2005, the date that the ‘454 Patent issued. Defendants knew or should have known that the ‘454 Patent had issued in April 2005 and that their CMP tool infringed on Claims 9 and 22 (and their dependent claims) of the ‘454 Patent. *See, e.g., Preemption Devices, Inc. v. Minn. Mining & Mfg., Co.*, 803 F.2d 1170, 1174 (citing *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 488-91(1964)). Additionally, Defendants CMP tool is not a “staple article or commodity of commerce suitable for substantial noninfringing use.” 35 U.S.C. § 271(c). By offering to sell the CMP tool to Micron and having Micron evaluate the CMP tool, Defendants contributed toward the infringing of Claim 9 of the ‘454 Patent. Therefore, the Court holds that Defendants are liable for contributory infringement of the ‘454 Patent.

B. Defendants’ Cross-Motion for Summary Judgment

Also before the Court is Defendants’ Cross-Motion for Partial Summary Judgment. Defendants argue that the ‘454 Patent is invalid with respect to Claims 9, 12, 13, 14, 15, 22, 23, 24, and 27 as fully anticipated under 25 U.S.C. § 102(e) by prior art disclosed or under 25 U.S.C. § 103 as a trivial and obvious variation. Specifically, Defendants claim that U.S. Patent No. 5,433,651 submitted by IBM (“Lustig Patent”) describes a CMP tool in which a hole is made through both the rotating platen and the polishing pad so that a beam of laser light can be

directed through the platen and the pad to strike the surface of the wafer being polished. To prevent the polishing slurry from reaching the laser and the detector, the Lustig Patent used a light transmissive material as a “window” mounted securely in the hole in the platen so as to transmit light but not allow slurry to reach the laser. The Lustig Patent is entitled “In-Situ Endpoint Detection and Process Monitoring Method and Apparatus for Chemical-Mechanical Polishing” and was issued on July 18, 1995.

“[T]he ultimate question of patent validity is one of law.” *Graham v. John Deere Co.*, 383 U.S. 1, 17, 86 S.Ct. 684, 694, 15 L.Ed.2d 545 (1966). Patents are presumed valid. 35 U.S.C. § 282. The party seeking to invalidate the patent bears the burden of proving that the patent is invalid by clear and convincing evidence. *Electromotive Division of General Motors Corp. v. Transportation Systems Division of General Electric, Co.*, 417 F.3d 1203, 1212 (Fed. Cir. 2005). A claim is invalid under § 102 and § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subjected matter as a whole would have been “obvious at the time invention was made to a person having ordinary skill in the art.” *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997).

A claim is anticipated under § 102 if a single prior art reference discloses each and every limitation either expressly or inherently. “[I]nvalidity by anticipation requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation.” *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000).

An invention must be nonobvious at the time of invention to one of ordinary skill in the

relevant art to receive patent protection. Section 103 states that patent rights may not properly be issued on an invention if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” An accused infringer must prove obviousness by clear and convincing evidence.

Obviousness is a question of law that is subject to underlying factual findings. *Graham*, 383 U.S. at 17.

While the ultimate question of patent validity is one of law, . . . the § 103 condition [that is, nonobviousness] . . . lends itself to several basic factual inquiries. Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.

Dennison Mfg. Co. v. Panduit Corp., 475 U.S. 809, 811 (1986) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966)).

Defendants have failed to provide the necessary information to allow the Court to determine if the ‘454 Patent is invalid for obviousness or anticipation. The Court finds that there are genuine issues of material fact which prohibit the Court from granting summary judgment on Defendants’ behalf. Some of which include determining the obviousness of Plaintiff’s changes to the Lustig patent and if the Lustig patent teaches away from modifying the structure in the way in which the ‘454 Patent does. Accordingly, Defendants’ Cross-Motion for Summary Judgment is **DENIED**.

IV. CONCLUSION

For the foregoing reasons, Plaintiff's Motion for Partial Summary Judgment is **GRANTED**. Because there are genuine issues of material fact, Defendants' Cross-Motion for Partial Summary Judgment is **DENIED**.

The Clerk is **DIRECTED** to mail a copy of this Order to counsel for the parties.

IT IS SO ORDERED.

_____/s/_____
Raymond A. Jackson
UNITED STATES DISTRICT JUDGE

Norfolk, Virginia
August 14, 2006